

Application Serial No. 10/724,091  
Reply to Office Action of November 16, 2004



SUBSTITUTE SPECIFICATION

TITLE OF THE INVENTION

Turbine blade

TECHNICAL FIELD

- 5            This invention relates to a turbine blade, both a guide blade or a moving blade  
for a gas turbine.

BACKGROUND OF THE INVENTION

- An example of a turbine blade according to the prior art is shown in Fig. 1 and 2  
10    of the accompanying drawings. The turbine blade 1 has a blade body or airfoil 2 extend-  
ing from an outer platform 3 to an inner platform 4. The airfoil 2 is hollow and receives  
a gaseous coolant (e.g. air), which is discharged from holes 6 in the trailing edge 7. The  
interior of the airfoil 2 also communicates with the pressure side 8 and suction side 9 of  
the airfoil through rows of film cooling holes 11 so that the outside of the airfoil is  
15    cooled by a film which forms on the surface. Similar rows of holes 12 are formed in the  
platforms 3, 4. The turbine blade 1 is made by casting and there is a smooth transition or  
fillet 13 between each of the pressure and suction sides 8, 9 of the airfoil 2 and each of  
the platforms 3, 4.

- 20            For efficient cooling of the fillets 13, groups 14 of film cooling holes are pro-  
vided at several different positions at the fillet. However, these additional holes increase  
the amount of gaseous coolant which has to be supplied to the turbine blade 1.

Approved for  
entry  
✓  
5/2/03